

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

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ART 34 AMDT



Applicant's or agent's file reference 47243	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/IT 02/00802	International filing date (day/month/year) 18.12.2002	Priority date (day/month/year) 18.12.2002
International Patent Classification (IPC) or both national classification and IPC A47L13/146		
Applicant NICCOLAI, Celestino		

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 5 sheets, including this cover sheet.
  - ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 2 sheets.

- This report contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand  24.02.2004	Date of completion of this report  13.09.2004
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer  Lodato, A  Telephone No. +49 89 2399-8037  

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. **PCT/IT 02/00802**

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

1-7 as originally filed

**Claims, Numbers**

1-5 received on 24.02.2004 with letter of 19.02.2004

**Drawings, Sheets**

1/14-14/14 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. **PCT/IT 02/00802**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).  
*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	1-5
	No: Claims	
Inventive step (IS)	Yes: Claims	1-5
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-5
	No: Claims	

2. Citations and explanations

**see separate sheet**

**Re Item V**

**Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Reference is made to the following documents:

D1: EP-A-0 494 021 (ELYSEES BALZAC FINANCIERE) 8 July 1992 (1992-07-08)  
D2: US 2002/056167 A1 (OHM HEINZ JOSEF ET AL) 16 May 2002 (2002-05-16)

2. The document D1 is regarded as being the closest prior art to the subject-matter of independent claim 1.
3. The object of the invention is to provide an improved domestic cleaning device, which makes easier the operations of squeezing and straightening out of the sponge layer which forms the cleaning element. This object is achieved by the technical features of independent claim 1.

4. Document D1 shows the following features of claim 1 (see description column 3, line 41 - column 5, line 39, figures 1, 2, 8):  
A domestic cleaning device comprising a staff-type structure (1, 2); joined to the end of said staff-typed structure, a central element (15) of a base (7) which comprises two lateral portions (13, 14) which are joined to said central element; resilient members (18) that tend to open out said lateral portions; a fork member (3) with a tubular extension which can be slid along said staff with the aid of a grip, said fork member having inner profiles for contact with the lateral portions of said base; on said base, means (32, 33) of attaching and releasing a replaceable assembly; said replaceable assembly consisting of a sponge layer (8) bonded to rigid flat elements (30, 31) provided with means (34, 35) for interacting with means for attaching said assembly to said base and releasing it therefrom; the sliding of said staff-type structure with respect to said fork member causing said base to flex, against the elastic force which tends to spread it out, and consequently causing the flexing and squeezing of the sponge layer.

- 4.1 The subject-matter of claim 1 therefore differs from the teaching of D1 in that:
- 1) the base is made by molding with co-molded rubber layers to form elastic joints between said central element and said two lateral portions, the components of the synthetic resin base being connected with thin layers at the positions of said joints.

- 4.2 Feature I) avoid the use of pivots and springs for the operations of squeezing and straightening out of the cleaning element thereby simplifying the base's structure of the cleaning device. The document D1 does not refer to this problem nor to the corresponding claimed solution.
- 4.3 The remaining document also do not provide any indication to incite modification of the closest prior art by adopting the features I) thereby arriving at the claimed invention, since in particular D2 also discloses a mop of the same type with two plates hinged to an intermediate plate of the mop's base but no details are given about the way of making said joints.
- 4.4 Therefore a domestic cleaning device according to claim 1 is not disclosed or suggested in the available prior art. **Claim 1** meets the requirements of the PCT with respect to novelty and inventive step (Articles 33(2) and 33(3) PCT). **Claims 2-5** are depending from claim 1 and as such also meet the requirements of Articles 33(2) and 33(3) PCT.
5. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the document D1 is not mentioned in the description, nor is this document identified therein.

CLAIMS

1) Domestic cleaning device characterized in that it comprises a combination of: a staff-type structure (1, 5); a central element (20A), joined to the end of said staff-type structure (1, 5), of a base (20) which comprises two lateral portions (20B) which are co-molded with said central element (20A) and with layers of rubber (26) to provide elastic flexibility; a fork member (12) with a tubular extension (12A) which can be slid along said staff (1, 5) with the aid of a grip (14); said fork member (12) having inner profiles (12B) for contact with the lateral portions (20B) of said base (20); on said base (20), means for attaching and releasing a replaceable assembly (36); said replaceable assembly (36) consisting of a sponge layer (38) bonded to rigid flat elements (40) provided with means (40A, 40B, 40C) for interacting with means (44, 46) for attaching said assembly to said base (20) and releasing it therefrom; the sliding of said staff-type structure (1, 5) with respect to said fork member (12) causing said base (20) to flex, against the elastic force which tends to spread it out, and consequently causing the flexing and squeezing of the sponge layer (38).

2) Device according to Claim 1, characterized in that said base (20) is made by molding with co-molded rubber layers (26) to form elastic joints between said central element (20A) and said two lateral portions (20B), the components (20A, 20B) of the synthetic resin base (20) being connected with thin layers (24) at the positions of said joints.

3) Device according to Claim 1 or 2, characterized in that each of the lateral portions (20B) of said base (20) forms a seat (20F) for a roller (32), which can make rolling contact with the corresponding inner shaped profile (12B) of the fork member (12), to facilitate the squeezing operation by their contact with said S-shaped inner profiles (12B).

4) Device according to Claim 1 at least, characterized in that it comprises a means of limiting the longitudinal (12) with respect to the staff.

5) Device according to Claim 4 at least, comprising a sleeve (5, 5A) which can be mounted onto and engaged with the

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lower end of the staff (1), said sleeve forming a seat (9) for joining to said base (20) and having an elastic catch (7) which can engage slidably in a longitudinal slot (16) of the tubular extension (12A) of the fork member (12), thereby limiting the longitudinal travel of said fork.

5           6)     Device according to Claim 5, characterized in that it comprises a screw connection between the end (3A) of the staff (1) and the end (5A) of said sleeve (5, 5A) and an angular fastening (7, 7A) for the operations of connecting the staff to the assembly (12, 20) of the device and releasing it t    efrom.

10           7)     Device according to at least any one of the preceding claims, characterized in that it comprises, as a replaceable component, the assembly (36) with the sponge layer (38) and the flat elements (40), these elements (40) forming, on one side, strips (40A) and, on the other side, flexible fastenings (40B) for interacting with slots (44) and with appendages (46) of said base  
15     (20), and also forming stops (40C) interacting with ribs (20K) of the base (20).

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## Amendments under Art. 34 PCT

NEW CLAIMS

1) Domestic cleaning device comprising: a staff-type structure (1, 5); joined to the end of said staff-type structure (1, 5), a central element (20A) of a base (20) which comprises two lateral portions (20B) which are joined to said central element (20A); resilient members that tend to open out said lateral portions; a fork member (12) with a tubular extension (12A) which can be slid along said staff (1, 5) with the aid of a grip (14), said fork member (12) having inner profiles (12B) for contact with the lateral portions (20B) of said base (20); on said base (20), means for attaching and releasing a replaceable assembly (36); said replaceable assembly (36) consisting of a sponge layer (38) bonded to rigid flat elements (40) provided with means (40A, 40B, 40C) for interacting with means (44, 46) for attaching said assembly to said base (20) and releasing it therefrom; the sliding of said staff-type structure (1, 5) with respect to said fork member (12) causing said base (20) to flex, against the elastic force which tends to spread it out, and consequently causing the flexing and squeezing of the sponge layer (38), characterized in that said base (20) is made by molding with co-molded rubber layers (26) to form elastic joints between said central element (20A) and said two lateral portions (20B), the components (20A, 20B) of the synthetic resin base (20) being connected with thin layers (24) at the positions of said joints.

2) Device according to Claim 1 or 2, characterized in that each of the lateral portions (20B) of said base (20) forms a seat (20F) for a roller (32), which can make rolling contact with the corresponding inner shaped profile (12B) of the fork member (12), to facilitate the squeezing operation by their contact with said S-shaped inner profiles (12B).

3) Device according to Claim 1 at least, characterized in that it comprises a sleeve (5, 5A) which can be mounted onto and engaged with the lower end of the staff (1), said sleeve forming a seat (9) for joining to said base (20) and having an elastic catch (7) which can engage slidably in a longitudinal slot (16) of the tubular extension (12A) of the fork member (12), thereby limiting the longitudinal travel of said fork.

4) Device according to Claim 3, characterized in that it comprises a



screw connection between the end (3A) of the staff (1) and the end (5A) of said sleeve (5, 5A) and an angular fastening (7, 7A) for the operations of connecting the staff to the assembly (12, 20) of the device and releasing it therefrom.

- 5            5)     Device according to at least any one of the preceding claims, characterized in that it comprises, as a replaceable component, the assembly (36) with the sponge layer (38) and the flat elements (40), these elements (40) forming, on one side, strips (40A) and, on the other side, flexible fastenings (40B) for interacting with slots (44) and with appendages (46) of said base
- 10     (20), and also forming stops (40C) interacting with ribs (20K) of the base (20).